CLAIMS:

1. A non-human animal, in which the gene encoding the MSH5 gene is misexpressed.

2. The animal of claim 1, wherein said animal is a transgenic animal.

3. The animal of claim 2, wherein said transgenic animal is a mouse.

4. The animal of claim 1, wherein the MSH5 gene is disrupted by removal of DNA encoding all or part of the MSH5 protein.

5. The animal of claim 4, wherein said animal is homozygous for the disrupted gene.

6. The animal of claim 4, wherein said animal is heterozygous for the disrupted gene.

7. The animal of claim 1, wherein said animal is a transgenic mouse with a transgenic disruption of the MSH5 gene.

8. The animal of claim 7, wherein said disruption is an insertion or deletion.

9. A method of evaluating a fertility treatment, comprising:
administering said treatment to an MSH5 misexpressing animal or a cell therefrom and determining the effect of the treatment on a fertility indication, thereby evaluating said fertility treatment.

10. The method of claim 9, wherein said treatment is evaluated in vivo.

11. The method of claim 9, wherein said treatment is evaluated in vitro.

12. The method of claim 9, wherein said MSH5 misexpressing animal is a transgenic mouse.

13. A method for identifying a compound which modulates the activity of MSH5, comprising:

a) contacting MSH5 with a test compound; and

b) determining the effect of the test compound on the activity of MSH5 to, thereby, identify a compound which modulates MSH5 activity.

14. The method of claim 13, wherein the activity of MSH5 is inhibited.

15. A method for modulating the activity of MSH5 comprising contacting MSH5 or a cell expressing MSH5 with a compound which binds to MSH5 in a sufficient concentration to modulate the activity of MSH5.

16. The method of claim 15, wherein the activity of MSH5 is inhibited.

17. The method of claim 16, wherein said method is used in contraception.

18. A method of identifying a subject having or at risk of developing a fertility disease or disorder, comprising:

(a) obtaining a sample from said subject;

(b) contacting said sample with a nucleic acid probe or primer which selectively hybridizes to MSH5; and

(c) determining whether aberrant MSH5 expression or activity exists in said sample, thereby, identifying a subject having or at risk of developing a fertility disease or disorder.

19. An isolated cell, or a purified preparation of cells from an MSH5 misexpressing animal.

20. The cell of claim 19, wherein said cell is transgenic cell.

21. The cell of claim 20, wherein said transgenic cell is a mouse cell.